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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/775,912	02/10/2004	Fanny Jeunehomme	14XZ133155	2002
23413 7590 02/04/2008 CANTOR COLBURN, LLP 20 Church Street 22nd Floor Hartford, CT 06103			EXAMINER WANG, CLAIRE X	
			ART UNIT 2624	PAPER NUMBER
			MAIL DATE 02/04/2008	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/775,912	<b>Applicant(s)</b> JEUNEHOMME ET AL.	
	<b>Examiner</b> Claire Wang	<b>Art Unit</b> 2624	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 November 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,39,45,55 and 70 is/are pending in the application.
- 4a) Of the above claim(s) 1,39,45 and 55 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 70 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Response to Amendment***

1. Applicants' response to the last Office Action, filed on November 20, 2007 has been entered and made of record.
2. Claims 1, 39, 45 and 55 are withdrawn from consideration due to the election restrictions required below.

***Election/Restrictions***

3. Newly amended claim 1 is directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:

a. Inventions of newly amended claim 1 (hereinafter "subcombination B") and original claim 1 (hereinafter "subcombination A") are related as Restriction to one of the following inventions is required under 35 U.S.C. 121. The inventions are distinct, each from the other because inventions of original and newly submitted claim 1 are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct if they do not overlap in scope and are not obvious variants, and if it is shown that at least one subcombination is separately usable. In the instant case, subcombination A uses one image from the image set to calculate the value of the variation of the mean gray levels whereas subcombination B uses a first and second image from a first image sequence and then an additional image from a second sequence of images to find the variation of the mean gray levels. See MPEP § 806.05(d).

The examiner has required restriction between subcombinations usable together. Where applicant elects a subcombination and claims thereto are subsequently found allowable, any claim(s) depending from or otherwise requiring all the limitations of the allowable subcombination will be examined for patentability in accordance with 37 CFR 1.104. See MPEP § 821.04(a). Applicant is advised that if any claim presented in a continuation or divisional application is anticipated by, or includes all the limitations of, a claim that is allowable in the present application, such claim may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 14-19 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

As to claims 39, 45 and 55 they are dependent on claim 1 and will be withdrawn from consideration due to the election by original presentation as mentioned above.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 70 is rejected under 35 U.S.C. 112 second paragraph.
6. Claim 79 recites the limitation "the value" in line 18. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claim 70 is rejected under 35 U.S.C. 102(b) as being anticipated by Heumann (US 6,201,850).

As to claim 70, Heumann teaches A method of operating a means for data processing comprising for each image of a sequence acquired by the apparatus and for a given frequency (use of X-ray is well known to be within a certain frequency; Fig. 3E) of acquisition of the sequence (determination of solder joint thickness derived from X-ray images; Col. 3, lines 16-17), the apparatus is calibrated by determining the value of the variation of a mean of gray levels (a gray scale level of the solder, which is the object of interest is obtaining by subtracting a background gray level from the foreground gray level; (Col. 25, lines 49-55) since the foreground region is not composed of a single pixel but multiple pixels there must be some form of mean or averaging function in order to know the foreground gray level) in at least one zone of interest (350 Fig. 6) of the current image of at least one calibration device (calibrating an X-ray imaging system for determining the thickness of a first absorbing material in the presence of a second absorbing material; Col. 3, lines 56-60), the variation being determined relative to the mean gray level of the first image of the sequence

(determining the thickness from X-ray images; Col. 3, lines 15-17) in each zone of interest; the determination of the variation is reiterated for a series of images sequences acquired using calibration devices resulting in first images of mean gray levels different from one sequence to another (Although Heumann does not specify that the image is a sequence of images, it is clear that Heumann does disclose that the technique used to identify the different thickness of the solder joints is done using multiple X-ray images (Col. 3, lines 16-17), therefore Heumann's technique may be applied to more than one image); and each image of an image sequence of an object under observation is corrected, a current image of the object comprising zones of observation having different gray levels and being corrected by subtracting from the current image of the object the variation of one gray level relative to the first image of the object, the subtraction being a function of the gray level considered from each zone of observation (Equation 4 teaches a way to find the difference in gray level; this is part of the linear shading correction technique; Col. 25, lines 59). Wherein each calibration device is placed in a field of acquisition of the apparatus also comprising the object under observation (Fig. 10); wherein the value subtracted from each image of the image sequence of the object is a function of an observation zone (Equation 4 teaches a way to find the difference in gray level; this is part of the linear shading correction technique; Col. 25, lines 59) and of a spatial gain of the apparatus (the delta gray level  $G$  is found and it's the difference or change with in the observation zone (Col. 25, lines 49-60) thus it can be the gain of the observation zone).



***Conclusion***

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

***Contact Information***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Claire Wang whose telephone number is 571-270-1051. The examiner can normally be reached on Mid-day flex.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Bella can be reached on 571-272-7778. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Claire Wang  
01/26/2008



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